

**IN THE SPECIFICATION:**

The specification as amended below with replacement paragraphs shows added text with underlining and deleted text with ~~striketthrough~~.

Please REPLACE the paragraph beginning at page 1, line 25, with the following paragraph:

In the plasma display panel (PDP) 1, a plurality of X electrodes (sustain electrode) 2 and a plurality of Y electrodes (scan electrode) 3 are arranged adjacently by turn and a plurality of address electrodes (third electrodes) 4 are arranged in the direction perpendicular to that in which the X electrodes and the Y electrodes extend. Between a pair of an X electrode and a Y electrode, that is, between X1 and Y1, between X2 and Y2, ..., a display line is formed and a display cell 5 is formed at the crossing of each display line and ~~the~~ an address electrode 4. The X electrodes and the Y electrodes are referred to as the display electrodes.

Please REPLACE the paragraph beginning at page 1, line 37, with the following paragraph:

The X electrodes are commonly connected to an X drive circuit 7 and the same drive signal is applied ~~all to~~ all of them. The X drive circuit 7 is provided with a sustain pulse circuit 8 that generates a sustain pulse, and a reset/address voltage generation circuit 9 that generates a voltage used during the reset and address operations, both of which will be described later. The Y electrodes are connected individually to a scan circuit 11 provided within a Y drive circuit 10, and a scan pulse is applied sequentially to them during an address period which will be described later. The Y drive circuit 10 is further provided with a sustain pulse circuit 12 that generates a sustain pulse, and a reset/address voltage generation circuit 13 that generates a reset/address voltage. The address electrodes are connected to an address driver 6 and an address signal, to select a cell to be lit or not to be lit, is applied to them during the address operation in synchronization with the scan pulse.

Please REPLACE the paragraph beginning at page 2, line 18, with the following paragraph:

As a discharge in a PDP takes only two values, that is, ON and OFF, gradation is displayed by varying the number of times of light emission. Therefore, one display field that corresponds to a display of a screen is divided into a plurality of subfields. Each subfield is composed of a reset period, an address period and a sustain discharge period (sustain period).

During the reset period, the reset operation is performed so that all of the display cells are put into a uniform state in which, for example, wall charges are erased, or wall charges are formed uniformly, regardless of the lit or unlit state of the cells in the previous subfield. During the address period, a selective discharge (address discharge) is caused to occur so that the ON (lit) or OFF (unlit) state of a display cell is determined according to display data and the wall charges in a cell to be lit are put into a state different from that of a cell not to be lit. During the sustain period, a discharge is caused to occur repeatedly in a display cell selected during the address period and light is emitted. If the number of sustain discharge pulses, that is, the period of the sustain discharge pulses, is constant, the length of the sustain discharge period differs from subfield to subfield, therefore gradation can be displayed by setting the ratio of times of light emission in each subfield to, for example, 1 : 2 : 4 : 8 : ..., and combining subfields that are to emit light according to the gradation of each display cell.

Please REPLACE the paragraph beginning at page 3, line 9, with the following paragraph:

FIG. 3 is a diagram that shows typical examples of drive waveforms in each subfield of a conventional PDP device. As shown schematically, during the reset period, in a state in which 0V is being applied to an address electrode A, an inclined wave-shaped pulse m, the voltage of which varies gradually from 0V to  $V_s + V_w$ , is applied to the Y electrode, and an inclined wave-shaped pulse, the voltage of which gradually varies from 0V to  $-V_s$ , is applied to the X electrode. Due to this, a discharge is caused to occur in all of the cells regardless of the wall charges accumulated in the display cell, and negative wall charges are accumulated on the Y electrode and the positive charges, on the X electrode. This is called the all-cell write discharge (reset discharge). Subsequently to this, an inclined wave-shaped charge control pulse n, the voltage of which drops gradually from  $V_s$ , is applied to the Y electrode and a voltage  $V_s$  is applied to the X electrode, ~~therefore,~~ by which the wall charges accumulated in the Y electrode and X electrode by the write discharge decrease almost to zero. Although a description is given below using an example of an inclined wave-shaped pulse, the voltage of which varies linearly, it is possible for there to be a case where the voltage does not vary linearly.

Please REPLACE the paragraph beginning at page 3, line 33, with the following paragraph:

During the address period, the voltage  $V_x$  is applied to the X electrode and, in a state in which 0V is being applied to the Y electrode, a scan pulse having a voltage  $-V_s-V_y$  is applied sequentially to the Y electrode and an address voltage  $V_a$  is applied to the address electrode A in a cell to be lit in synchronization with the application of the scan pulse. The voltage 0V is applied to the address electrode in a cell not to be lit. An address discharge is caused to occur in a cell to be lit to which the scan pulse and the address voltage have been applied, and positive wall charges are accumulated ~~in-on~~ the Y electrode and negative charges are accumulated ~~in-on~~ the X electrode. In this case, the quantities of these wall charges ~~in-on~~ the Y electrode and X electrode are sufficient to cause a sustain discharge to occur when a sustain discharge pulse is applied. As an address discharge is not caused to occur in a cell not to be lit, the quantities of wall charges in the Y electrode and X electrode are made to remain almost zero.

Please REPLACE the paragraph beginning at page 4, line 15, with the following paragraph:

During the sustain discharge period, in a state in which 0V is being applied to the address electrode, the voltage  $V_s$  and the voltage  $-V_s$  are applied alternately to the X electrode and Y electrodes as a sustain pulse. The voltage of the sustain pulse to be applied to the Y electrode for the first time is set to  $V_s+V_u$ . In a cell to be lit, the voltage due to wall charges is added to the voltage of the sustain pulse, the discharge start voltage is exceeded and a sustain discharge is caused to occur, and the charges move and a quantity of charges necessary for the next sustain discharge are accumulated ~~in-on~~ the Y electrode and the X electrode. In other words, when the address period is completed, positive wall charges are accumulated ~~in-on~~ the Y electrode and negative wall charges are accumulated ~~in-on~~ the X electrode, that is, a voltage, the high potential side of which is the Y electrode, is applied between the Y electrode and the X electrode. Therefore, if the voltage  $V_s+V_u$  is applied to the Y electrode as a sustain pulse and  $-V_s$  is applied to the X electrode at the inception of the sustain period, the voltage due to the above-mentioned wall charges is added so that the discharge start voltage is exceeded, and a sustain discharge is caused to occur. When a sustain discharge is caused to occur, the positive charges move from the Y electrode to the X electrode and accumulate therein, the negative charges move from the X electrode to the Y electrode and accumulate therein, and the sustain

discharge is terminated because a voltage, the high potential side of which is the X electrode, is produced by the movement of charges. Then, if  $-V_s$  is applied to the Y electrode as a sustain pulse and the voltage  $V_s$  is applied to the X electrode, a sustain discharge is caused to occur because the voltage due to the wall charges, the high potential side of which is the X electrode, is added. This cycle is repeated during the sustain period. As no charge is accumulated in a cell not to be lit, no discharge is caused to occur even though a sustain pulse is applied to either electrode.

Please REPLACE the paragraph beginning at page 5, line 22, with the following paragraph:

FIG. 4 is a diagram that shows an example of gradation display in a conventional PDP device. In this example, one display field is composed of ten subfields SF1-SF10 and each subfield has a luminance ratio as shown schematically. At the head of the one display field, SF1 with the lowest luminance ratio is arranged and, following this, the subfields each having ~~each a~~ luminance ratio, as shown schematically, are arranged in order. When each gradation level is displayed, subfields to be lit are combined as shown schematically. Although only the gradation levels 0 to 35 are shown here, it is possible to display up to 124 gradation levels in this example. Moreover, in this example, by providing subfields having the same luminance ratio in twos for the four kinds of luminance ratios, it is possible for there to be multiple combinations for the display of the same gradation level. Due to this, a color false contour can be reduced.

Please REPLACE the paragraph beginning at page 6, line 2, with the following paragraph:

A description has been given of ~~the a~~ conventionally driven typical PDP device as above, but it is possible for there to be various different methods for driving the PDP device. For example, Japanese Unexamined Patent Publication (Kokai) No. 9-160525 has disclosed a PDP device in which the number of display lines is doubled while the number of sustain electrodes remains the same as conventionally, by utilizing all the gaps between neighboring sustain electrodes as a display cells. Although it is possible to apply the present invention to any PDP device, as long as it displays gradation using the subfield method, no further description is given here.